FIG.1

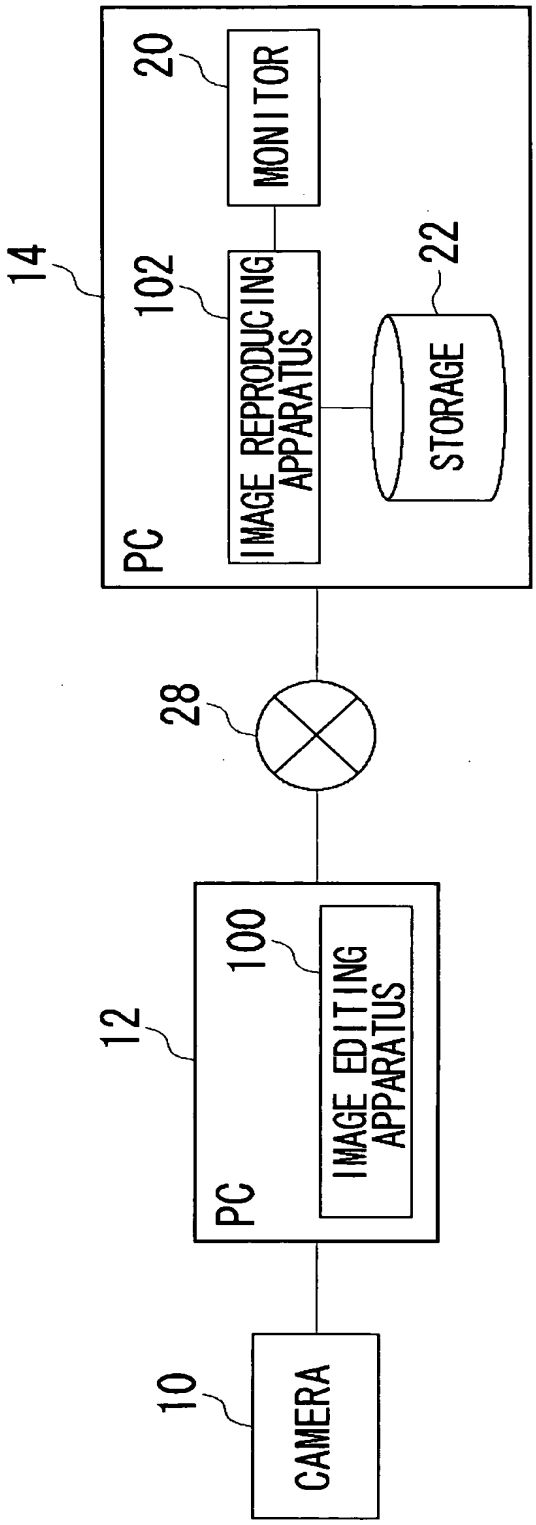

CAMERA
10
PC
IMAGE EDITING APPARATUS
100
12
28
PC
IMAGE REPRODUCING APPARATUS
102
MONITOR
20
STORAGE
22
14

FIG.2

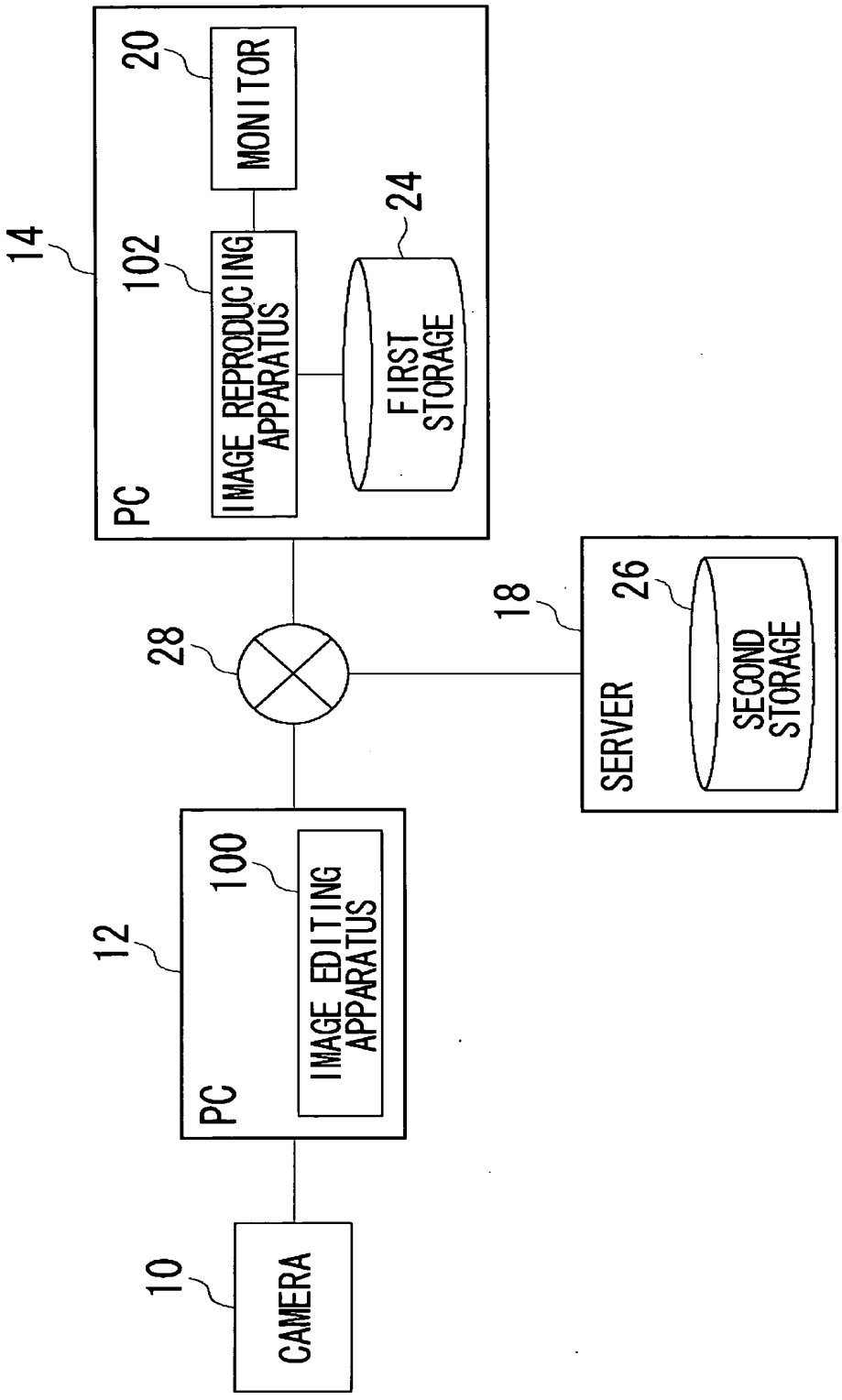

14
PC
102
IMAGE REPRODUCING APPARATUS
20
MONITOR
24
FIRST STORAGE
28
18
SERVER
26
SECOND STORAGE
12
PC
100
IMAGE EDITING APPARATUS
10
CAMERA

FIG.3

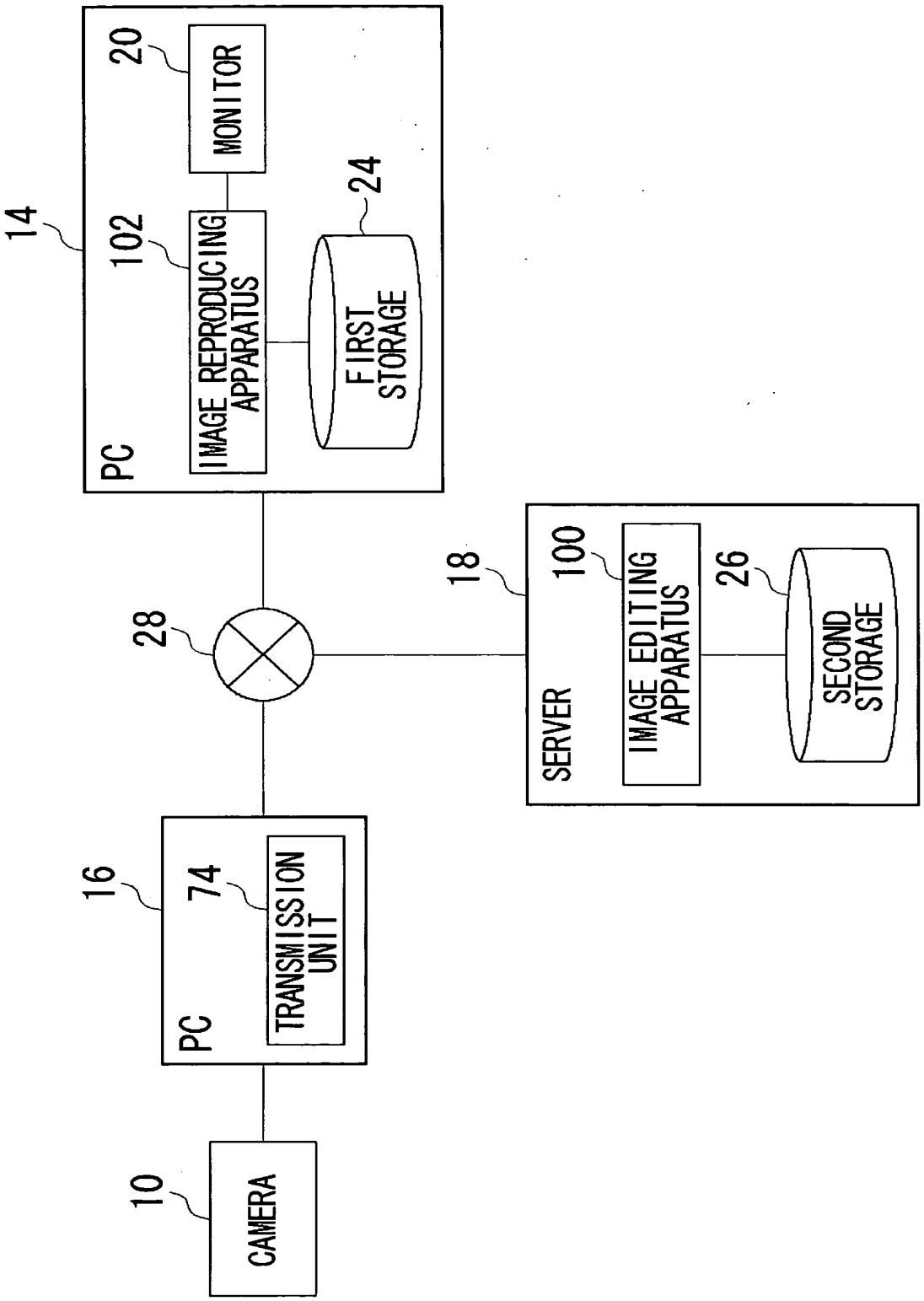

14
PC
20
MONITOR
102
IMAGE REPRODUCING APPARATUS
24
FIRST STORAGE
28
18
SERVER
100
IMAGE EDITING APPARATUS
26
SECOND STORAGE
16
PC
74
TRANSMISSION UNIT
10
CAMERA

FIG.4

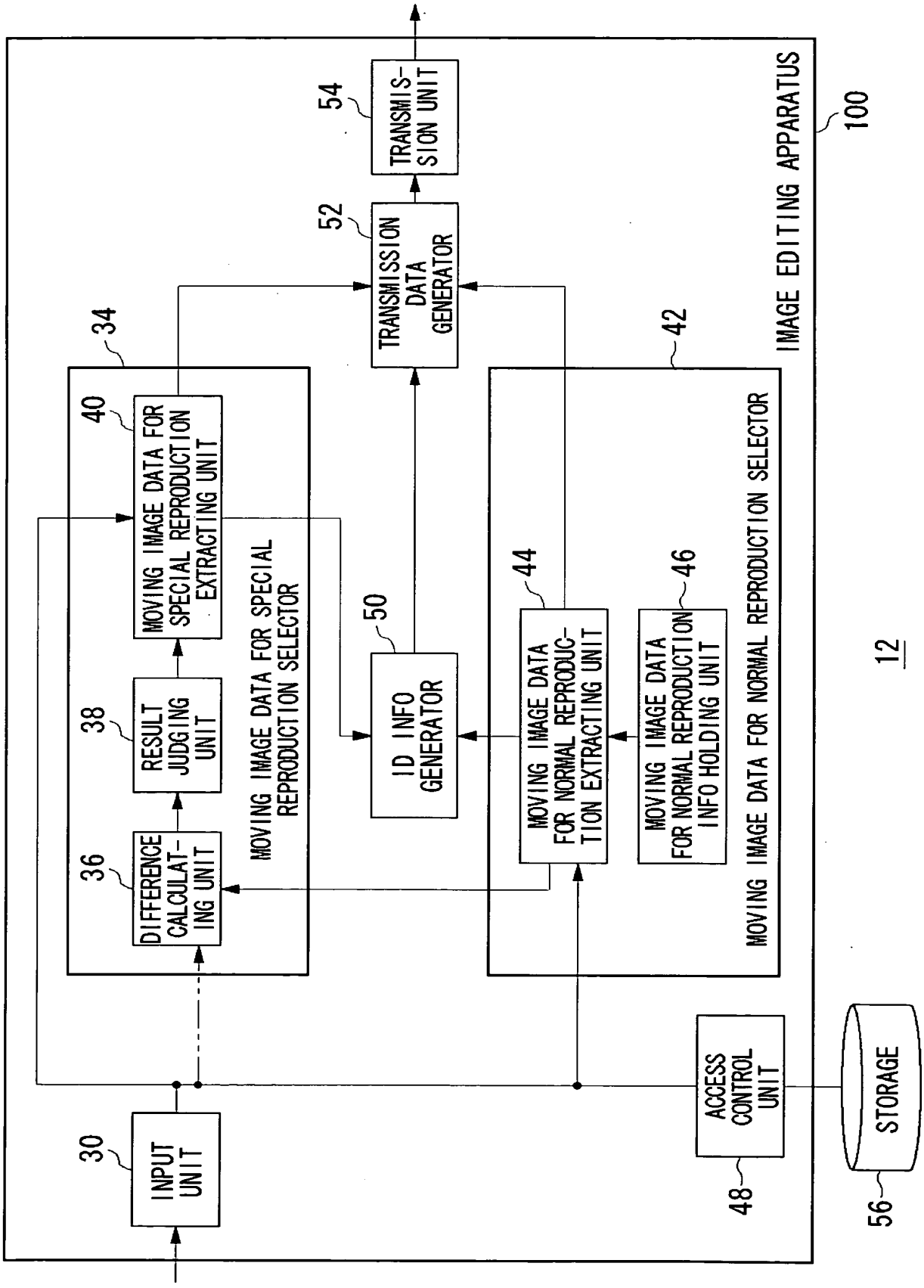
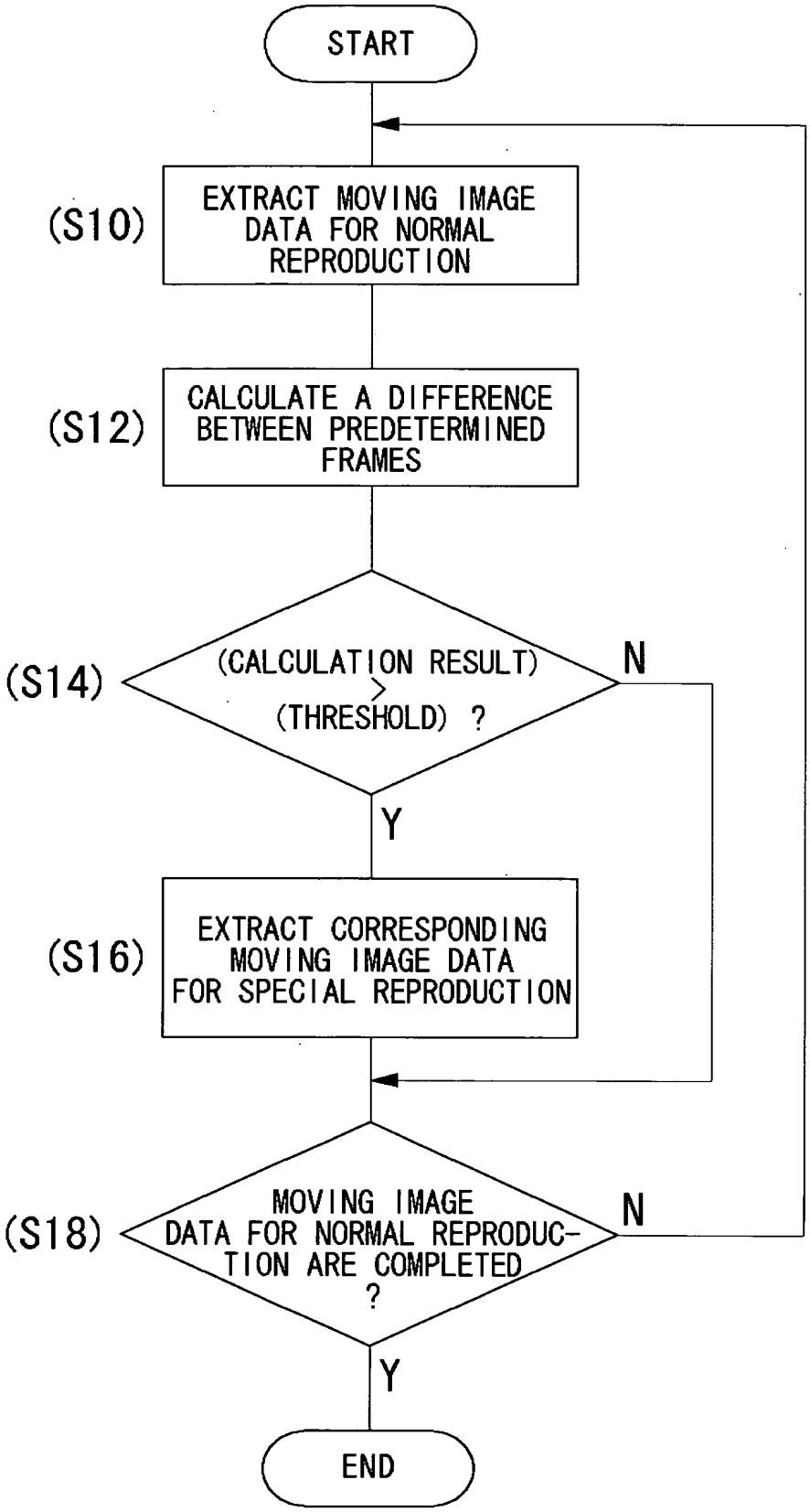


IMAGE EDITING APPARATUS
100
54
TRANSMIS-
SION UNIT
52
TRANSMISSION
DATA
GENERATOR
34
MOVING IMAGE DATA FOR SPECIAL
REPRODUCTION SELECTOR
40
MOVING IMAGE DATA FOR
SPECIAL REPRODUCTION
EXTRACTING UNIT
38
RESULT
JUDGING
UNIT
36
DIFFERENCE
CALCULAT-
ING UNIT
50
ID INFO
GENERATOR
42
MOVING IMAGE DATA FOR NORMAL REPRODUCTION SELECTOR
44
MOVING IMAGE DATA
FOR NORMAL REPRODUC-
TION EXTRACTING UNIT
46
MOVING IMAGE DATA
FOR NORMAL REPRODUCTION
INFO HOLDING UNIT
30
INPUT
UNIT
48
ACCESS
CONTROL
UNIT
56
STORAGE
12

FIG.5


START
(S10)
EXTRACT MOVING IMAGE DATA FOR NORMAL REPRODUCTION
(S12)
CALCULATE A DIFFERENCE BETWEEN PREDETERMINED FRAMES
(S14)
(CALCULATION RESULT) > (THRESHOLD) ?
N
Y
(S16)
EXTRACT CORRESPONDING MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S18)
MOVING IMAGE DATA FOR NORMAL REPRODUCTION ARE COMPLETED ?
N
Y
END

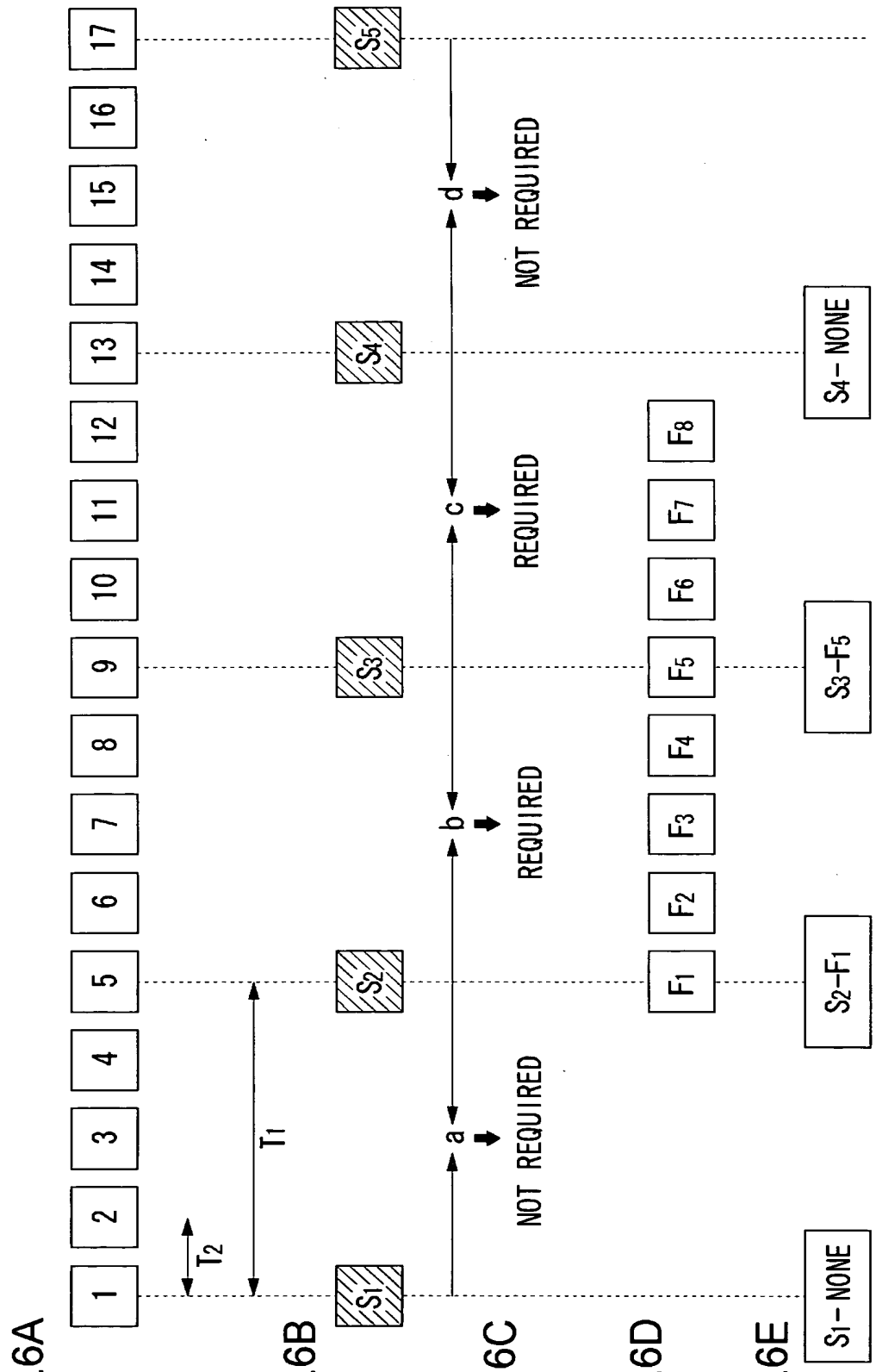


FIG.6A FIG.6B FIG.6C FIG.6D FIG.6E

FIG.7A

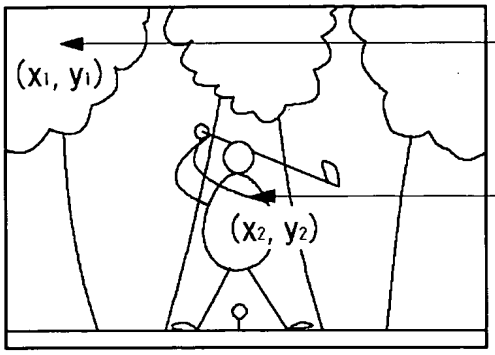


FIG.7B

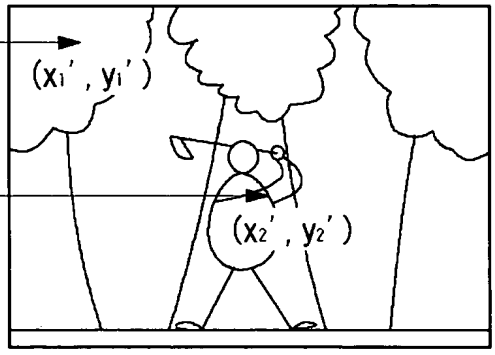


FIG.8A

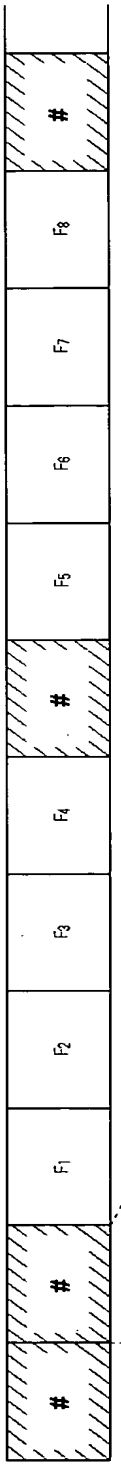


FIG.8B

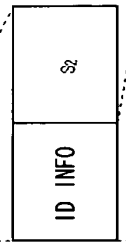


FIG.8C

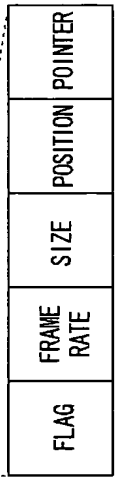
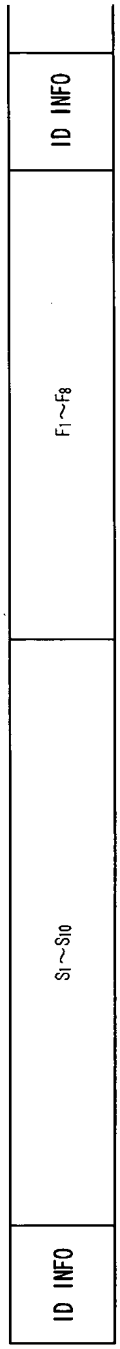


FIG.8D



F1-F8:MOVING IMAGE DATA FRAME FOR SPECIAL REPRODUCTION
S1-S10:MOVING IMAGE DATA FRAME FOR NORMAL REPRODUCTION
#:MOVING IMAGE DATA PACKET FOR NORMAL REPRODUCTION

FIG.9

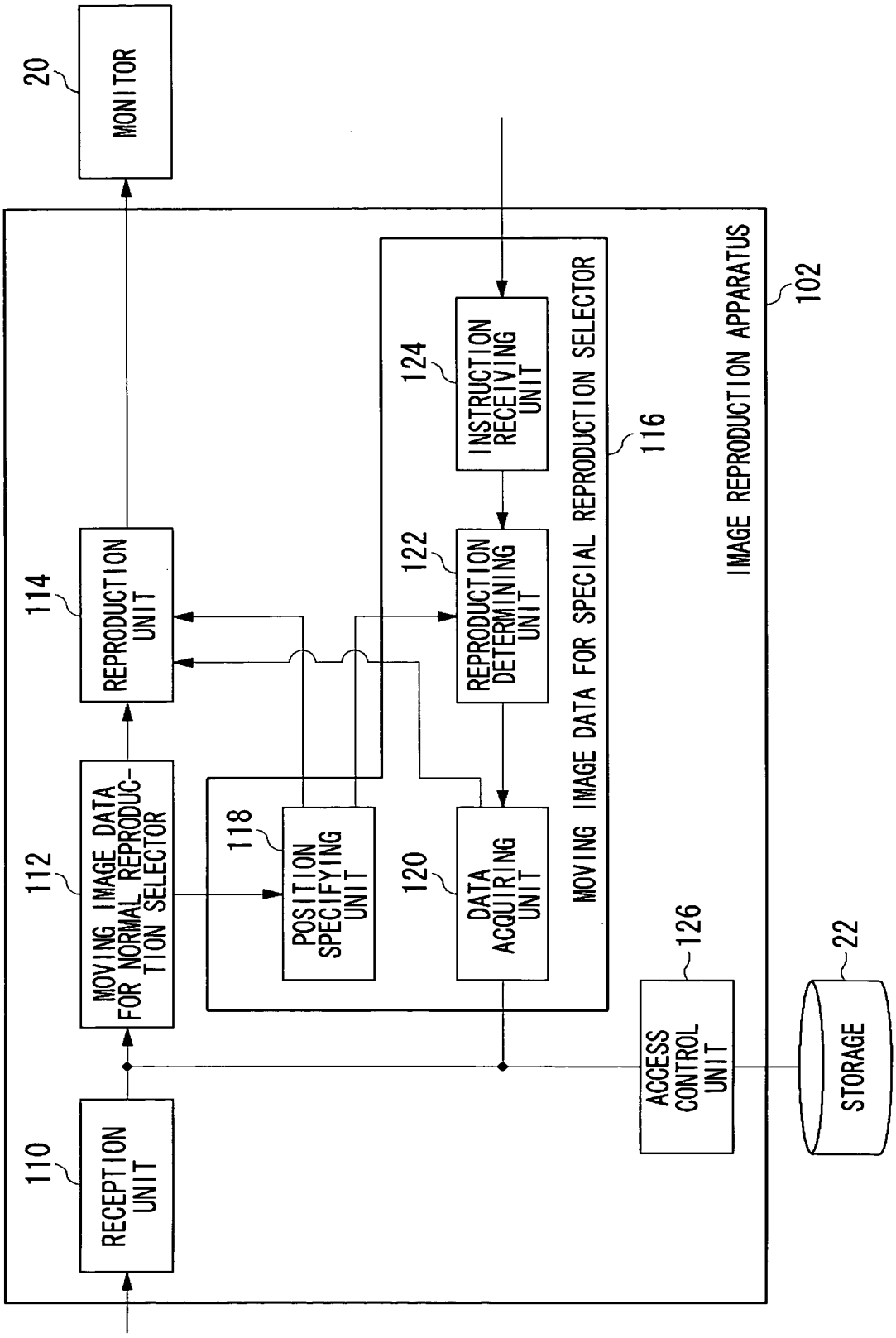

20
MONITOR
102
IMAGE REPRODUCTION APPARATUS
MOVING IMAGE DATA FOR SPECIAL REPRODUCTION SELECTOR
116
124
INSTRUCTION RECEIVING UNIT
122
REPRODUCTION DETERMINING UNIT
114
REPRODUCTION UNIT
112
MOVING IMAGE DATA FOR NORMAL REPRODUCTION SELECTOR
118
POSITION SPECIFYING UNIT
120
DATA ACQUIRING UNIT
126
ACCESS CONTROL UNIT
22
STORAGE
110
RECEPTION UNIT
14

FIG.10

LINE	STORAGE CONTENTS	
0	ID INFO (S_1)	MOVING IMAGE DATA FRAME FOR NORMAL REPRODUCTION (S_1)
1	ID INFO (S_2)	MOVING IMAGE DATA FRAME FOR NORMAL REPRODUCTION (S_2)
9	ID INFO (S_{10})	MOVING IMAGE DATA FRAME FOR NORMAL REPRODUCTION (S_{10})
1799	ID INFO (S_{1800})	MOVING IMAGE DATA FRAME FOR NORMAL REPRODUCTION (S_{1800})
1800	MOVING IMAGE DATA FRAME FOR SPECIAL REPRODUCTION (F_1)	
1899	MOVING IMAGE DATA FRAME FOR SPECIAL REPRODUCTION (F_{100})	
EOF		

FIG.11

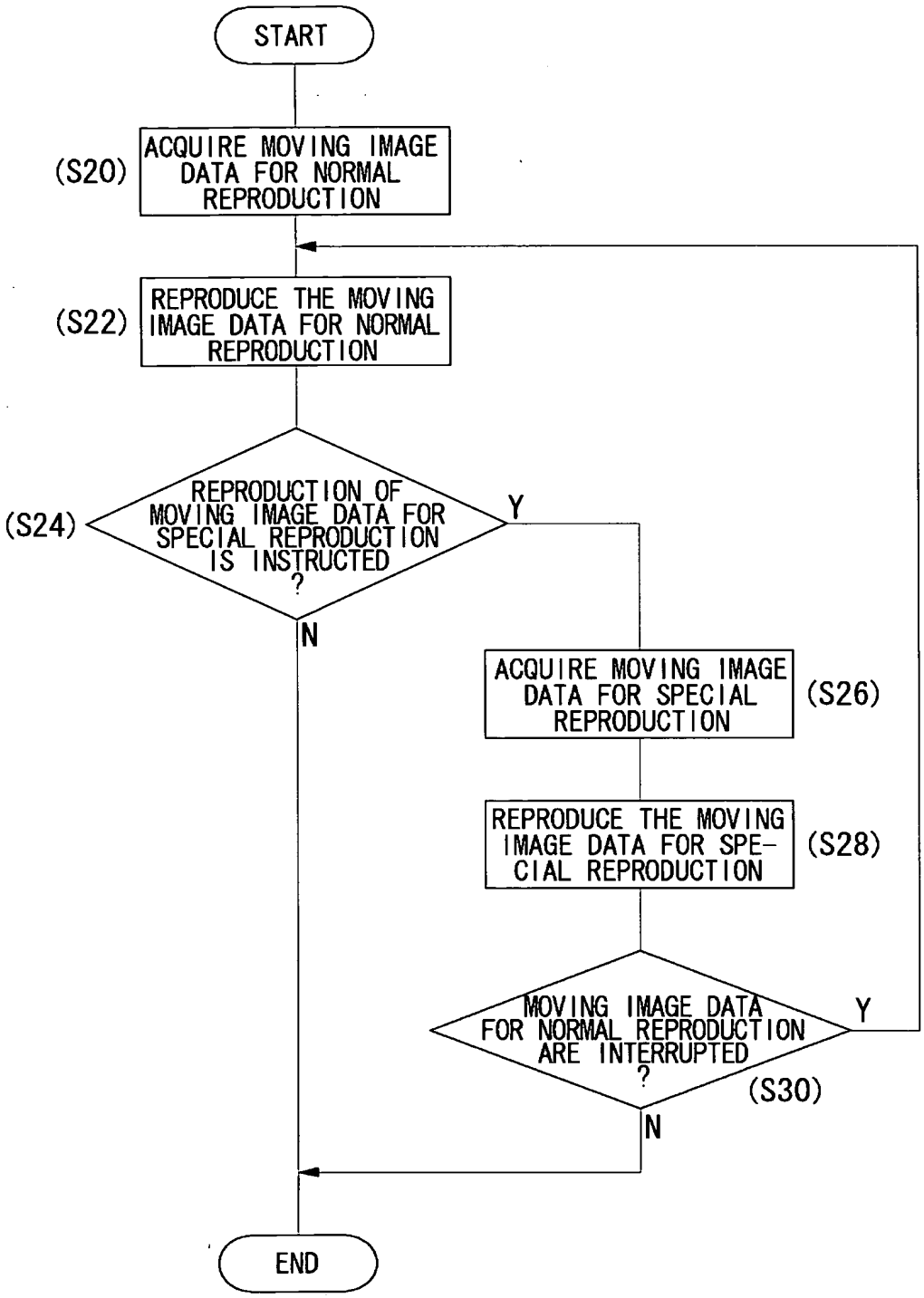

START
(S20)
ACQUIRE MOVING IMAGE DATA FOR NORMAL REPRODUCTION
(S22)
REPRODUCE THE MOVING IMAGE DATA FOR NORMAL REPRODUCTION
(S24)
REPRODUCTION OF MOVING IMAGE DATA FOR SPECIAL REPRODUCTION IS INSTRUCTED ?
Y
N
ACQUIRE MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S26)
REPRODUCE THE MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S28)
MOVING IMAGE DATA FOR NORMAL REPRODUCTION ARE INTERRUPTED ?
(S30)
Y
N
END

FIG.12

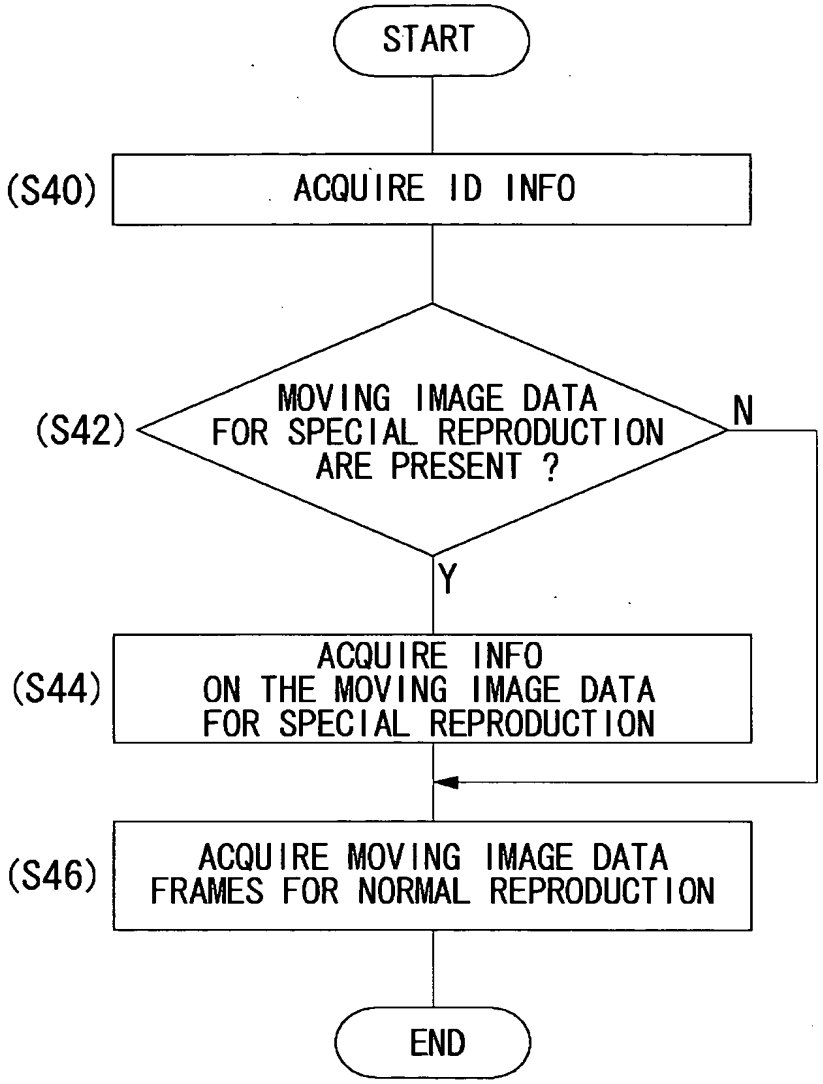

START
(S40)
ACQUIRE ID INFO
(S42)
MOVING IMAGE DATA FOR SPECIAL REPRODUCTION ARE PRESENT ?
N
Y
(S44)
ACQUIRE INFO ON THE MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S46)
ACQUIRE MOVING IMAGE DATA FRAMES FOR NORMAL REPRODUCTION
END

FIG.13A

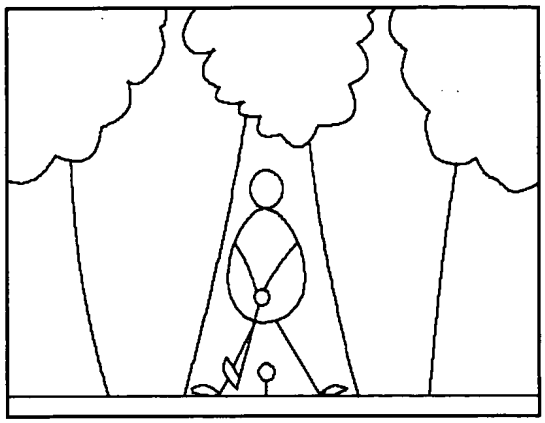


FIG.13B

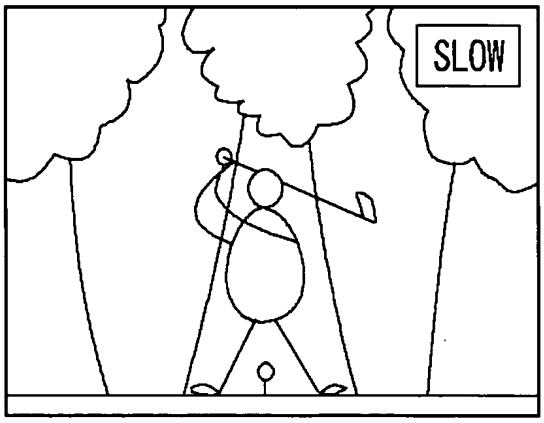
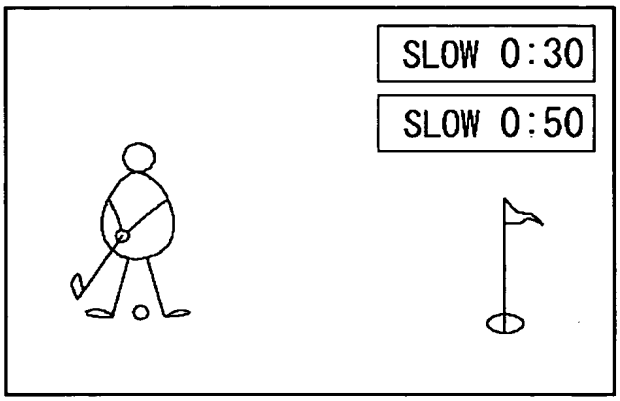


FIG.14



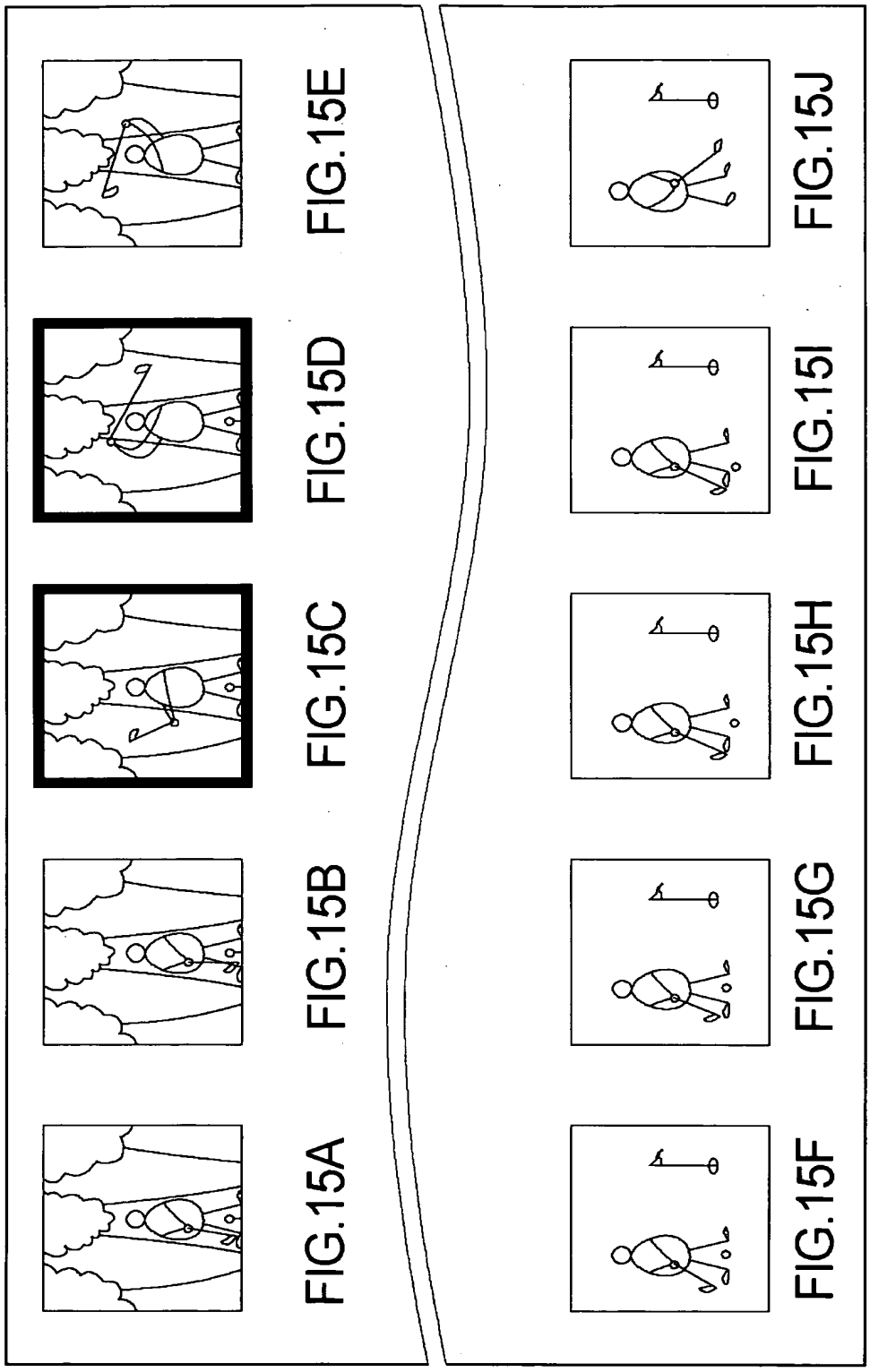


FIG.15A FIG.15B FIG.15C FIG.15D FIG.15E

FIG.15F FIG.15G FIG.15H FIG.15I FIG.15J

FIG.16A

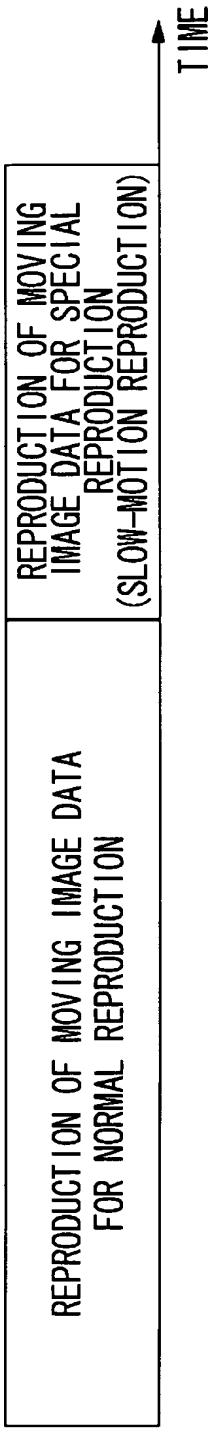
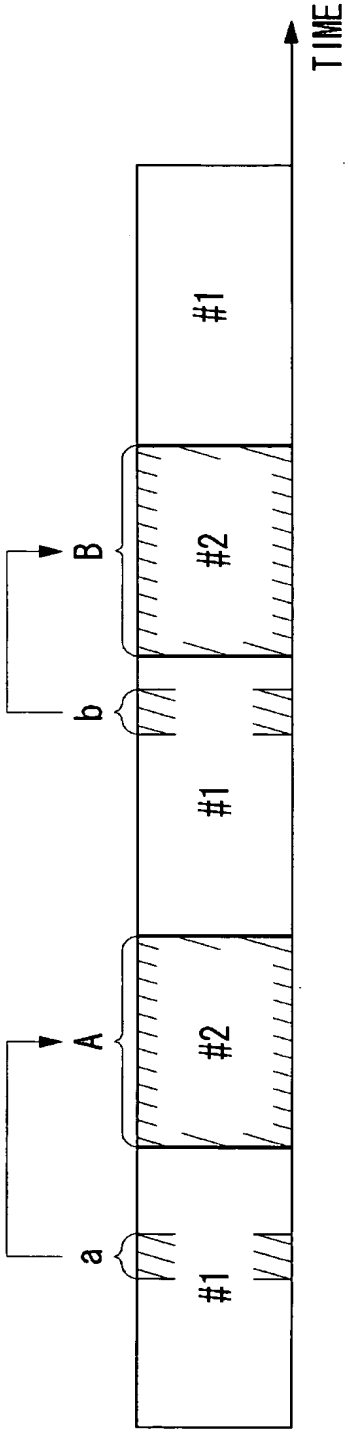


FIG.16B



#1:REPRODUCTION OF MOVING IMAGE DATA FOR NORMAL REPRODUCTION
#2:REPRODUCTION OF MOVING IMAGE DATA FOR SPECIAL REPRODUCTION

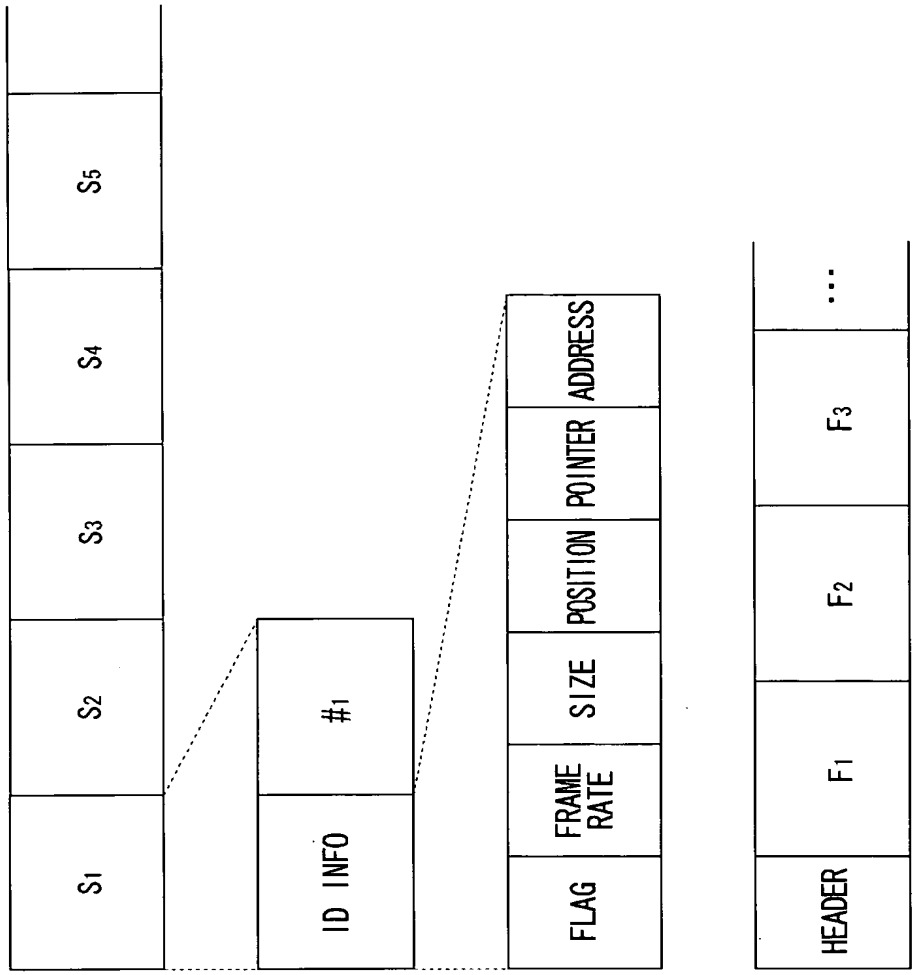


FIG.17A

FIG.17B

FIG.17C

FIG.17D

S_1–S_5: MOVING IMAGE DATA PACKET FOR NORMAL REPRODUCTION
#1: MOVING IMAGE DATA FRAME FOR NORMAL REPRODUCTION
F_1–F_3: MOVING IMAGE DATA FRAME FOR SPECIAL REPRODUCTION

FIG.18

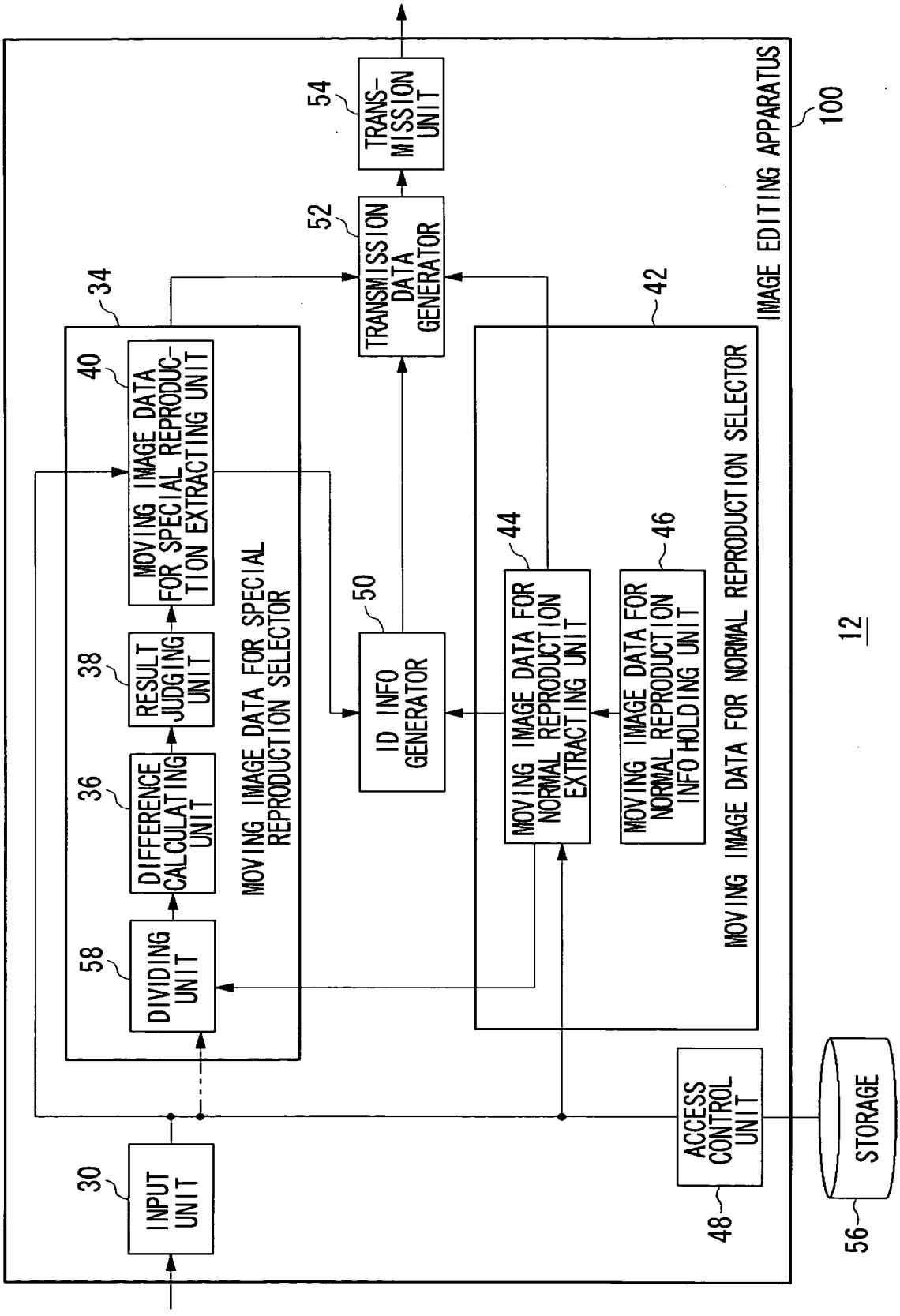


IMAGE EDITING APPARATUS
100
12
INPUT UNIT
30
ACCESS CONTROL UNIT
48
STORAGE
56
MOVING IMAGE DATA FOR SPECIAL REPRODUCTION SELECTOR
34
DIVIDING UNIT
58
DIFFERENCE CALCULATING UNIT
36
RESULT JUDGING UNIT
38
MOVING IMAGE DATA FOR SPECIAL REPRODUC-TION EXTRACTING UNIT
40
ID INFO GENERATOR
50
TRANSMISSION DATA GENERATOR
52
TRANS-MISSION UNIT
54
MOVING IMAGE DATA FOR NORMAL REPRODUCTION SELECTOR
42
MOVING IMAGE DATA FOR NORMAL REPRODUCTION EXTRACTING UNIT
44
MOVING IMAGE DATA FOR NORMAL REPRODUCTION INFO HOLDING UNIT
46

FIG.19A

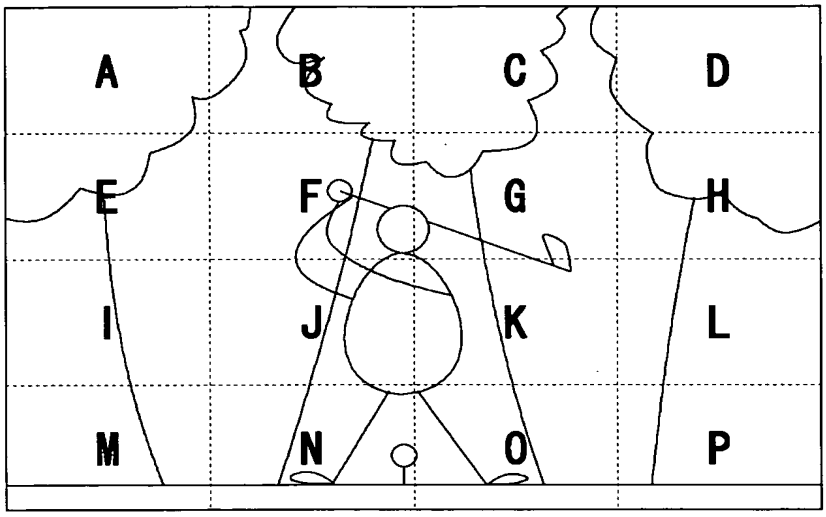


FIG.19B

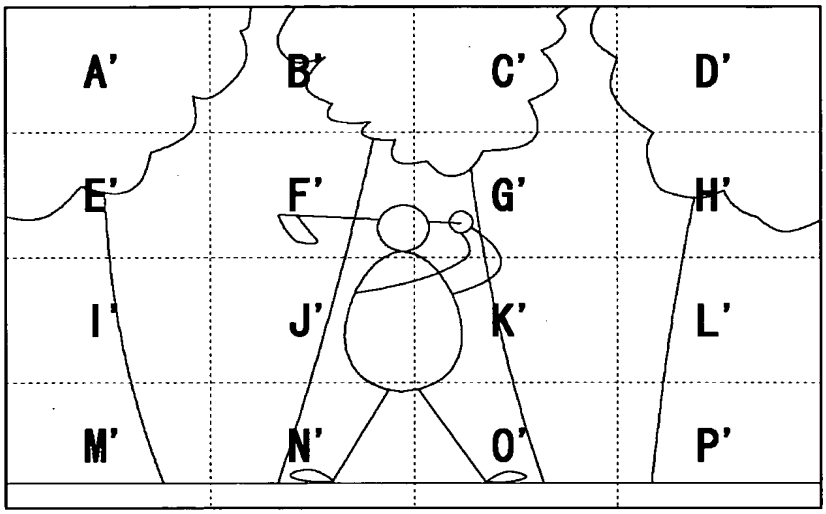


FIG.20

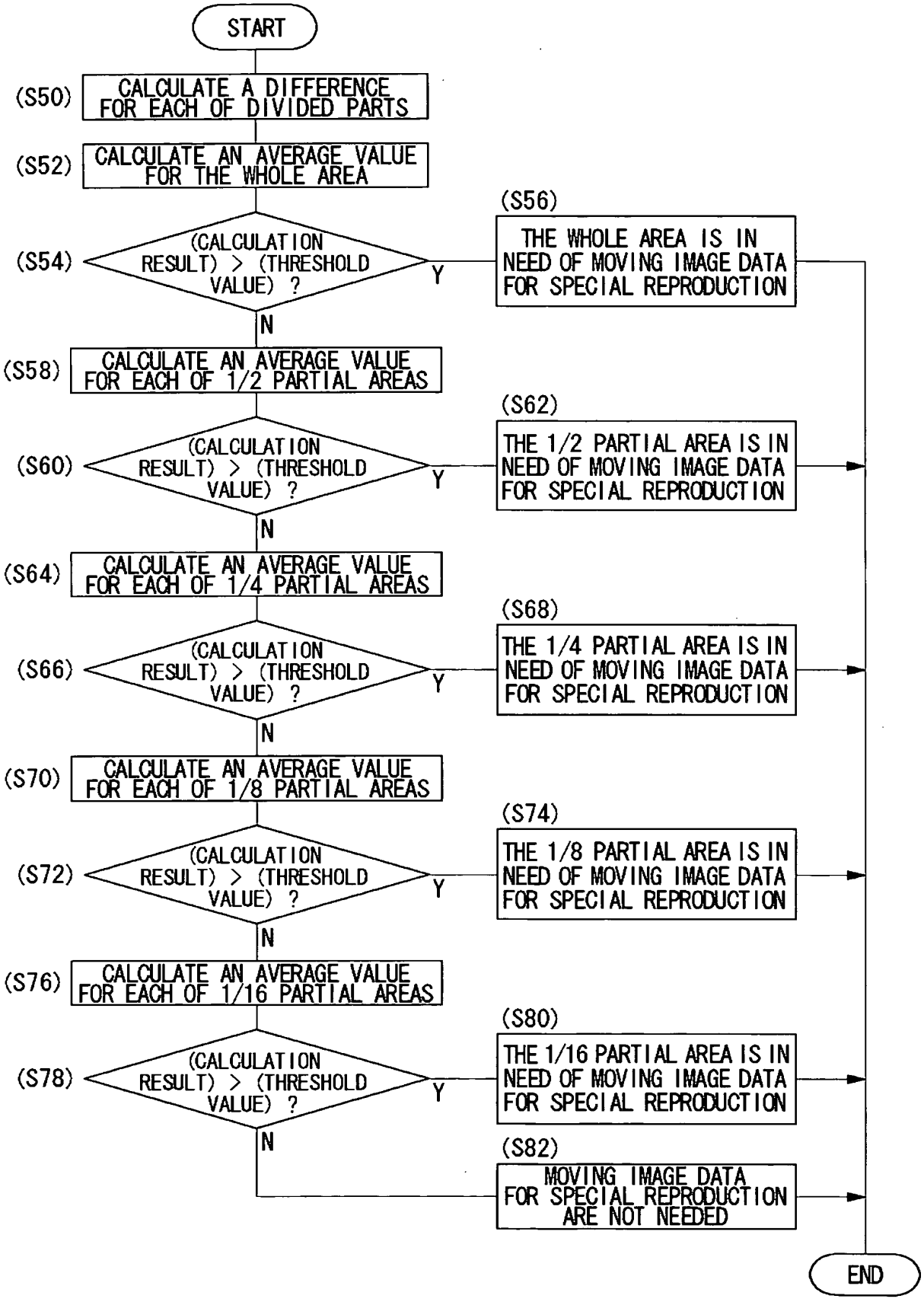

START
(S50)
CALCULATE A DIFFERENCE FOR EACH OF DIVIDED PARTS
(S52)
CALCULATE AN AVERAGE VALUE FOR THE WHOLE AREA
(S54)
(CALCULATION RESULT) > (THRESHOLD VALUE) ?
Y
N
(S56)
THE WHOLE AREA IS IN NEED OF MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S58)
CALCULATE AN AVERAGE VALUE FOR EACH OF 1/2 PARTIAL AREAS
(S60)
(CALCULATION RESULT) > (THRESHOLD VALUE) ?
Y
N
(S62)
THE 1/2 PARTIAL AREA IS IN NEED OF MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S64)
CALCULATE AN AVERAGE VALUE FOR EACH OF 1/4 PARTIAL AREAS
(S66)
(CALCULATION RESULT) > (THRESHOLD VALUE) ?
Y
N
(S68)
THE 1/4 PARTIAL AREA IS IN NEED OF MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S70)
CALCULATE AN AVERAGE VALUE FOR EACH OF 1/8 PARTIAL AREAS
(S72)
(CALCULATION RESULT) > (THRESHOLD VALUE) ?
Y
N
(S74)
THE 1/8 PARTIAL AREA IS IN NEED OF MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S76)
CALCULATE AN AVERAGE VALUE FOR EACH OF 1/16 PARTIAL AREAS
(S78)
(CALCULATION RESULT) > (THRESHOLD VALUE) ?
Y
N
(S80)
THE 1/16 PARTIAL AREA IS IN NEED OF MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S82)
MOVING IMAGE DATA FOR SPECIAL REPRODUCTION ARE NOT NEEDED
END

FIG.21

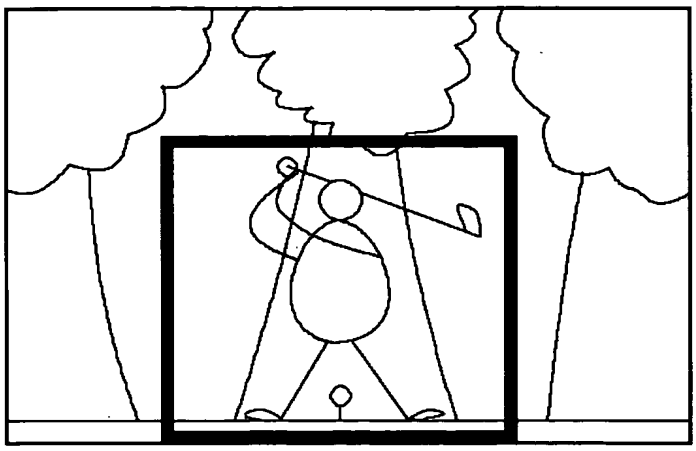


FIG.22

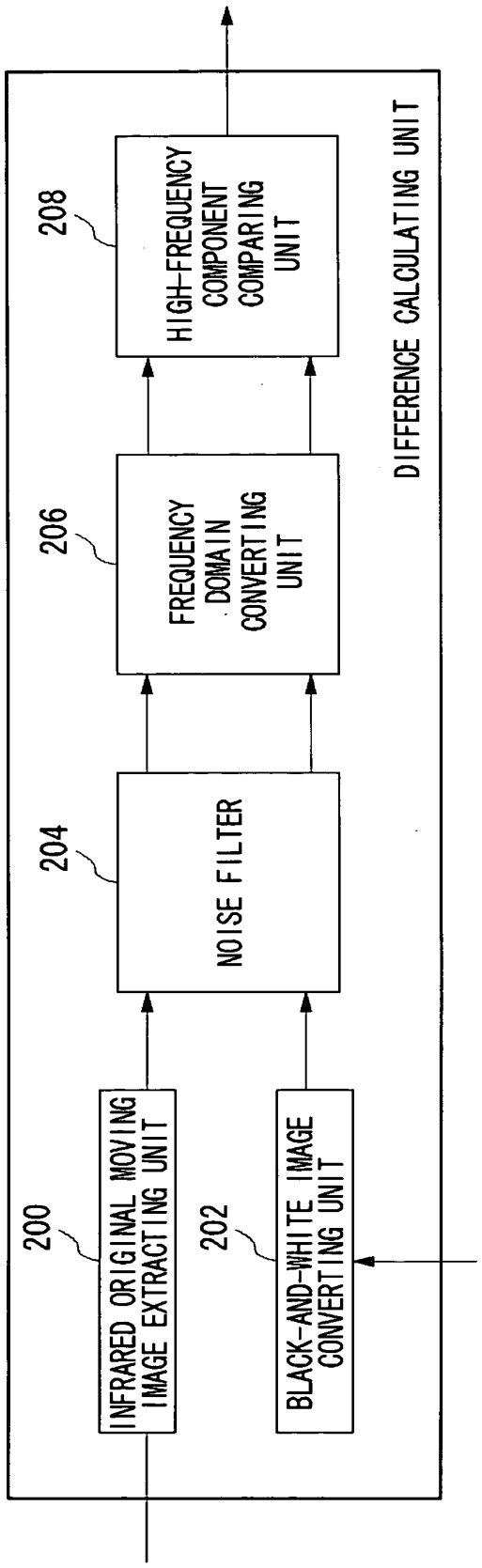

DIFFERENCE CALCULATING UNIT
208
HIGH-FREQUENCY COMPONENT COMPARING UNIT
206
FREQUENCY DOMAIN CONVERTING UNIT
204
NOISE FILTER
200
INFRARED ORIGINAL MOVING IMAGE EXTRACTING UNIT
202
BLACK-AND-WHITE IMAGE CONVERTING UNIT
36

FIG.23

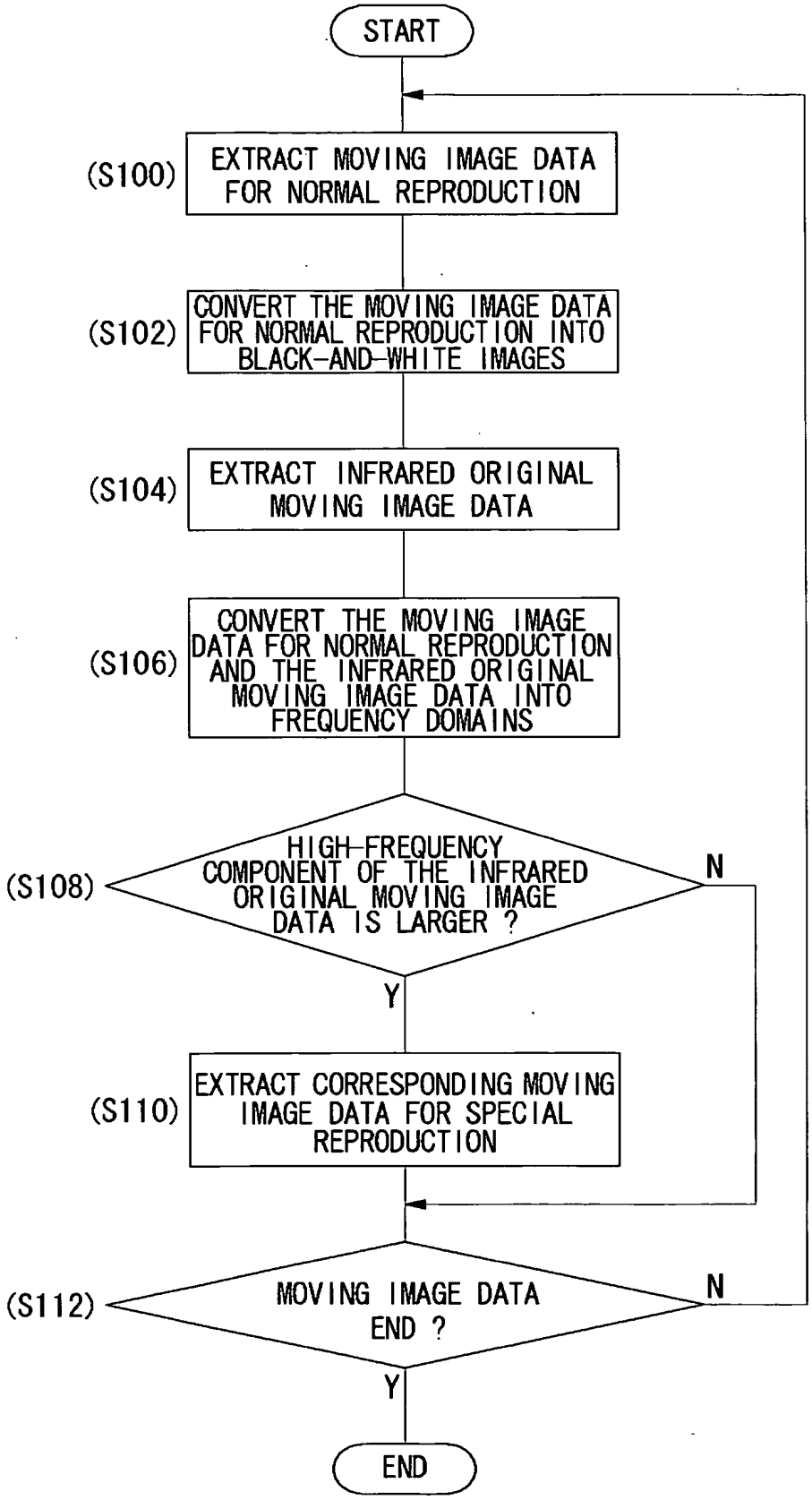

START
(S100)
EXTRACT MOVING IMAGE DATA FOR NORMAL REPRODUCTION
(S102)
CONVERT THE MOVING IMAGE DATA FOR NORMAL REPRODUCTION INTO BLACK-AND-WHITE IMAGES
(S104)
EXTRACT INFRARED ORIGINAL MOVING IMAGE DATA
(S106)
CONVERT THE MOVING IMAGE DATA FOR NORMAL REPRODUCTION AND THE INFRARED ORIGINAL MOVING IMAGE DATA INTO FREQUENCY DOMAINS
(S108)
HIGH-FREQUENCY COMPONENT OF THE INFRARED ORIGINAL MOVING IMAGE DATA IS LARGER ?
N
Y
(S110)
EXTRACT CORRESPONDING MOVING IMAGE DATA FOR SPECIAL REPRODUCTION
(S112)
MOVING IMAGE DATA END ?
N
Y
END

FIG.24A

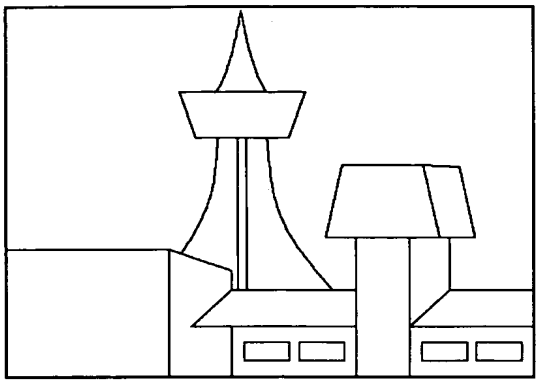


FIG.24B

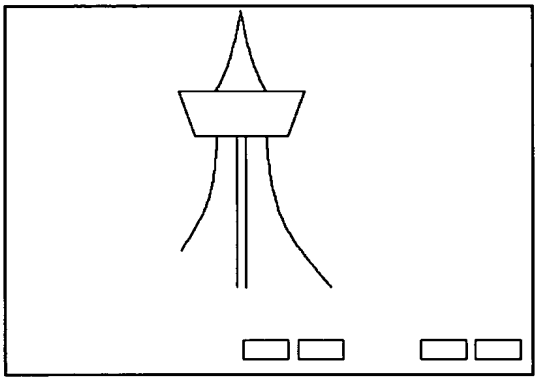


FIG.25

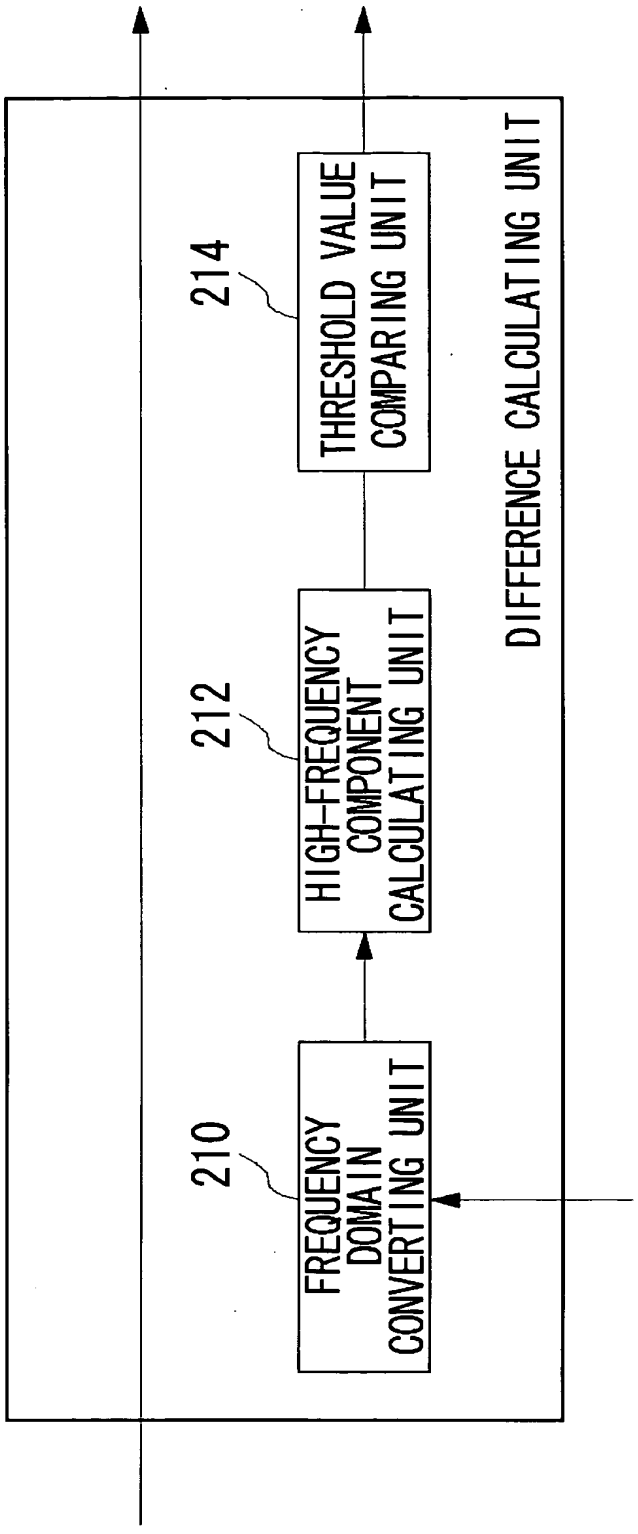

DIFFERENCE CALCULATING UNIT
36
210
FREQUENCY DOMAIN CONVERTING UNIT
212
HIGH-FREQUENCY COMPONENT CALCULATING UNIT
214
THRESHOLD VALUE COMPARING UNIT

FIG.26A

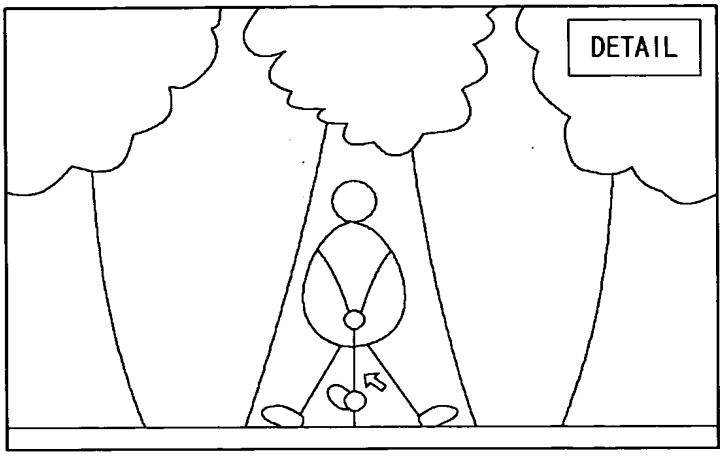
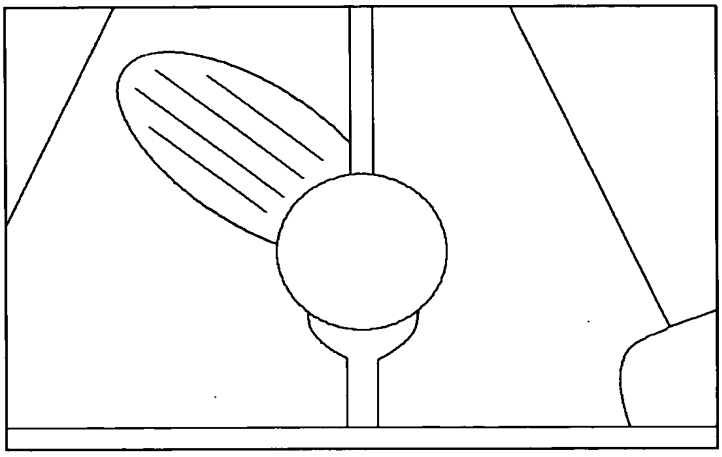



FIG.26B